

IN THE CLAIMS:

Please cancel claims 37, 46, 55 and 64 and amend claims 24-31 to read as follows:

1.-23. (Canceled).

24. (Currently Amended) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between ~~the~~ an idle position and ~~the~~ a full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and ~~5 to~~ 30°;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one of (1) an ASIC circuit with a Hall device and a

buffer storage circuit implemented as an E²PROM and (2) a
buffer storage unit;

(d) a microprocessor unit, connected to the ASIC
circuit; and

(e) an output switching device connected to the
microprocessor unit for producing at least one pulse-width-
modulated output signal (PW1, PW2) with selectable
frequencies (F1, F2, F3, F4).

25. (Currently Amended) Floor pedal device for heavy motor
vehicles, such as trucks, buses, mobile cranes, and the
like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base
plate element by means of a connector device such that the
pedal element may be moved between the an idle position and
~~the~~ a full-throttle position of an internal combustion
engine through a pedal angle (α) of between 0° and ~~5~~^{to}
30°;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device and a buffer circuit implemented as an E²PROM;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) a digital/analog converter connected to the microprocessor unit for producing an analog output signal.

26. (Currently Amended) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between ~~the~~ an idle position and ~~the~~ a full-throttle position of an internal combustion

engine through a pedal angle (α) of between 0° and ~~5~~to 30° ;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device and a buffer circuit implemented as an E²PROM;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) an output switching device connected to the microprocessor unit for producing a switching signal (GT).

27. (Currently Amended) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between the an idle position and

~~the~~ a full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 5 ~~to~~ 30°;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device and a buffer circuit implemented as an E²PROM;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) first and second output stages, connected to receive first and second outputs from the microprocessor unit, respectively, for producing push-pull signals (GE1, GE2).

28. (Currently Amended) ~~The floor pedal device according to claim 24, wherein the rotational angle sensor of the signal generator comprises~~ Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between an idle position and a full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 30°;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one of (1) a first ASIC circuit with a first Hall device and (2) a buffer storage unit, and as well as a second ASIC circuit with a second Hall device;

(d) a first microprocessor unit, connected to the first ASIC circuit and a second microprocessor unit, connected to said second ASIC circuit; and

(e) a first output switching device connected to the first microprocessor unit for producing at least one pulse-width-modulated output signal (PW1, PW2) with selectable frequencies (F1, F2, F3, F4) and a second output switching

device connected to the second microprocessor unit for producing a second pulse-width-modulated signal (PW2) with selectable frequencies (F1, F2, F3, F4).

29. (Currently Amended) ~~The floor pedal device according to claim 25, wherein the rotational angle sensor of the signal generator further comprises~~ Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between an idle position and a full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 30°;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes a first ASIC circuit with a first Hall device and a second

ASIC circuit with a second Hall device ~~and wherein said floor pedal device further comprises;~~

(d) a microprocessor unit, connected to the first ASIC circuit, a second microprocessor unit, connected to the second ASIC circuit, and

(e) a digital/analog converter connected to the first microprocessor unit for producing an analog output signal and a second an output switching device connected to the second microprocessor unit for producing an output switching signal (GT).

30. (Currently Amended) ~~The floor pedal device according to claim 25, wherein the rotation angle sensor of the signal generator includes~~ Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between an idle position and a

full-throttle position of an internal combustion engine
through a pedal angle (α) of between 0° and 30°;

(c) a signal generator that is at least partially
connected with the connector device and that generates a
signal corresponding to pedal movement, said signal
generator including a rotation angle sensor that includes a
first ASIC circuit with a first Hall device and a second
ASIC circuit with a second Hall device;~~and wherein the~~
~~floor pedal device further comprises~~

(d) a first microprocessor unit, connected to the first
ASIC circuit and a second microprocessor unit connected to
the second ASIC circuit; ~~and~~

(e) a digital/analog converter connected to the first
microprocessor unit for producing an analog output signal
and first and second output stages, connected to receive
first and second outputs from the second microprocessor
unit, respectively, for producing push-pull signals (GE1,
GE2).

31. (Currently Amended) ~~The floor pedal device according to~~
~~claim 24, including~~ Floor pedal device for heavy motor

vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between an idle position and a full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 30°;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one of (1) an ASIC circuit with a Hall device and (2) a buffer storage unit;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) an output switching device connected to the microprocessor unit for producing at least one pulse-width-modulated output signal (PW1, PW2) with selectable

frequencies (F1, F2, F3, F4) and means for adjusting the
selectable frequencies (F1, F2, F3, F4) of each pulse-width-
modulated output signal (PW1, PW2) with each buffer storage
unit.

32. (Previously Presented) The floor pedal device according
claim 24, wherein the pedal element may be moved between the
idle position and the full-throttle position of an internal
combustion engine through a pedal angle (α) of between 0°
and 22°.

33. (Previously Presented) The floor pedal device according
to claim 24, wherein the pedal element includes a return
spring which returns the pedal element to the idle position,
and wherein the connector device includes a separate return
spring to return the rotational angle sensor to the idle
position.

34. (Previously Presented) The floor pedal device according
to claim 24, wherein the pedal element includes two return
springs to return the pedal element to the idle position.

35. (Previously Presented) The floor pedal device according
to claim 24, wherein each ASIC circuit and microprocessor

unit are programmable via a connector plug of the rotational angle sensor.

36. (Previously Presented) The floor pedal device according to claim 24, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

37. (Canceled).

38. (Previously Presented) The floor pedal device according to claim 24, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30° , 35° , or 40° , and the final-position angle (γ) being 13° or 23° .

39. (Previously Presented) The floor pedal device according to claim 24, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section

(U_L) of the ASIC output voltage as the pedal element is moved.

40. (Previously Presented) The floor pedal device according to claim 24, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.

41. (Previously Presented) The floor pedal device according claim 25, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22° .

42. (Previously Presented) The floor pedal device according to claim 25, wherein the pedal element includes a return spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return spring to return the rotational angle sensor to the idle position.

43. (Previously Presented) The floor pedal device according to claim 25, wherein the pedal element includes two return springs to return the pedal element to the idle position.

44. (Previously Presented) The floor pedal device according to claim 25, wherein each ASIC circuit and microprocessor unit are programmable via a connector plug of the rotational angle sensor.

45. (Previously Presented) The floor pedal device according to claim 25, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

46. (Canceled).

47. (Previously Presented) The floor pedal device according to claim 25, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30° , 35° , or 40° , and the final-position angle (γ) being 13° or 23° .

48. (Previously Presented) The floor pedal device according to claim 25, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

49. (Previously Presented) The floor pedal device according to claim 25, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.

50. (Previously Presented) The floor pedal device according claim 26, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22° .

51. (Previously Presented) The floor pedal device according to claim 26, wherein the pedal element includes a return spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return

spring to return the rotational angle sensor to the idle position.

52. (Previously Presented) The floor pedal device according to claim 26, wherein the pedal element includes two return springs to return the pedal element to the idle position.

53. (Previously Presented) The floor pedal device according to claim 27, wherein each ASIC circuit and microprocessor unit are programmable via a connector plug of the rotational angle sensor.

54. (Previously Presented) The floor pedal device according to claim 26, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

55. (Canceled).

56. (Previously Presented) The floor pedal device according to claim 26, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor

angle (β) being 30° , 35° , or 40° , and the final-position angle (γ) being 13° or 23° .

57. (Previously Presented) The floor pedal device according to claim 26, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

58. (Previously Presented) The floor pedal device according to claim 26, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.

59. (Previously Presented) The floor pedal device according claim 27, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22° .

60. (Previously Presented) The floor pedal device according to claim 27, wherein the pedal element includes a return

spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return spring to return the rotational angle sensor to the idle position.

61. (Previously Presented) The floor pedal device according to claim 27, wherein the pedal element includes two return springs to return the pedal element to the idle position.

62. (Previously Presented) The floor pedal device according to claim 27, wherein each ASIC circuit and microprocessor unit are programmable via a connector plug of the rotational angle sensor.

63. (Previously Presented) The floor pedal device according to claim 27, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

64. (Canceled).

65. (Previously Presented) The floor pedal device according to claim 27, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate

element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30° , 35° , or 40° , and the final-position angle (γ) being 13° or 23° .

66. (Previously Presented) The floor pedal device according to claim 27, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

67. (Previously Presented) The floor pedal device according to claim 27, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.